

L. complanatum. This accords with E. J. Hill's experience related in the July TORREYA. It is quite abundant at Alder Creek also, but not to the same extent as *L. complanatum*. The long slender fingers distinguish it easily from the latter species, the digits of which are short, flat and stout.

SHORTER NOTES

SPRING FOLIAGE IN OCTOBER.—The fall tent-caterpillar, tussock-moth, and other ravenous insects have been particularly abundant this year in the parks of New York City, and the trees in Union and Madison Squares, presented a desolate and denuded appearance at the end of August. But during September most of the trees have developed a new set of leaves, so that now, in the beginning of October, they have the fresh green beauty of May. There are exceptions here and there, however, for the elms, poplars, catalpas and the thorny locust still retain their old leaves and shabby aspect, while the maples, lindens, and button-balls make a strong contrast with their fresh green foliage. The English elms have not been eaten by insects, the catalpas only occasionally, and the poplars and thorny locusts suffered more from the excessive heat and dryness of June and July, which caused them to lose many of their first leaves. The leaves which have grown since, on the extremities of the branches, are larger and more vigorous and still remain, when all the rest are fallen.—E. G. BRITTON.

FIELD DAYS OF THE TORREY BOTANICAL CLUB.—During the summer months, weekly excursions have been made by members of the Torrey Botanical Club to interesting localities in the vicinity of New York City. In order to keep in closer touch with the Club, the Botanical Garden has aimed to send on each excursion a member of its staff or an aid, who collected for the local herbarium.

On the excursion of August 17th, to Grasmere, Staten Island, S. H. Burnham represented the Garden. The following interesting plants were found: *Blephariglottis ciliaris* (L.) Rydb., in moist smilax tangles, in full bloom; *Ptilimnium capillaceum* (Mx.) Raf.;

Koellia flexuosa (Walt.) MacM.; *Sanguisorba Canadensis* L.; *Polygala viridescens* L.; *P. verticillata* L.; *Rhexia Virginica* L.; *Dipsacus sylvestris* Huds.; *Baptisia tinctoria* (L.) R. Br., nearly out of flower; *Cuscuta arvensis* L.; *Spiraea salicifolia latifolia* Ait.; *Iva frutescens* L.; *Panicum virgatum* L.; *Rynchospora glomerata* (L.) Vahl and *Apios Apios* (L.) MacM.—S. H. B.

REVIEWS

THE "PEG" OR "HEEL" IN SEEDLINGS OF THE CUCURBITACEAE

For many years that curious adaptive structure known as the "peg" or "heel" which serves to open the seedcoat in seedlings of the cucurbits has been an object of study for many investigators. The extent to which this has been the case is indicated by the extraordinary number of papers which have been devoted to it, namely 531!

The last of these is from the laboratory of the Agricultural Academy at Bonn, by Professor F. Noll.* The very interesting and important results of the investigation are given below in the form of a partial translation:

As shown by Darwin, the structure in question is produced at the point of union of hypocotyl and root. Its lower half is therefore morphologically root, and the upper half stem. Qualitatively, the axis at this point is able to produce the peg on all sides. On the broad flanks of the axis, which in transverse section is elliptical, the peg develops more strongly than on the narrow flanks. Quantitatively, therefore, the axis differs in this regard in different regions of the sensitive zone.

The development of the peg, which is for the greater part confined to one side of the axis, occurs in response to two kinds of stimuli.

1. Its localized origin is on the one hand dependent on the stimulus of gravitation, and is formed on the under side. By reversing a sufficiently young seedling, a second peg may be called out on the opposite side.

* Zur Keimungs-Physiologie der Cucurbitaceen. Landwirtschaftliche Jahrbücher. 1901. 145-165. Ergänzungsband I.